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APPLICATION NO.	FILING DATE	FIRST NAMED INVENTOR	ATTORNEY DOCKET NO.	CONFIRMATION NO.
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10/796,946

03/10/2004

Douglas J. Matzke

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03/20/2008

MUNSCH, HARDT, KOPF & HARR, P.C.
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EXAMINER

WONG, LUT

ART UNIT

PAPER NUMBER

2129

MAIL DATE

DELIVERY MODE

03/20/2008

PAPER

Please find below and/or attached an Office communication concerning this application or proceeding.

The time period for reply, if any, is set in the attached communication.

Office Action Summary

Application No.

10/796,946

Applicant(s)

MATZKE ET AL.

Examiner

LUT WONG

Art Unit

2129

-- The MAILING DATE of this communication appears on the cover sheet with the correspondence address --
Period for Reply

A SHORTENED STATUTORY PERIOD FOR REPLY IS SET TO EXPIRE 3 MONTH(S) OR THIRTY (30) DAYS, WHICHEVER IS LONGER, FROM THE MAILING DATE OF THIS COMMUNICATION.

- Extensions of time may be available under the provisions of 37 CFR 1.136(a). In no event, however, may a reply be timely filed after SIX (6) MONTHS from the mailing date of this communication.
- If NO period for reply is specified above, the maximum statutory period will apply and will expire SIX (6) MONTHS from the mailing date of this communication.
- Failure to reply within the set or extended period for reply will, by statute, cause the application to become ABANDONED (35 U.S.C. § 133). Any reply received by the Office later than three months after the mailing date of this communication, even if timely filed, may reduce any earned patent term adjustment. See 37 CFR 1.704(b).

Status

- 1) ☒ Responsive to communication(s) filed on 26 November 2007.
- 2a) ☐ This action is **FINAL**. 2b) ☒ This action is non-final.
- 3) ☐ Since this application is in condition for allowance except for formal matters, prosecution as to the merits is closed in accordance with the practice under *Ex parte Quayle*, 1935 C.D. 11, 453 O.G. 213.

Disposition of Claims

- 4) ☒ Claim(s) 1-56 is/are pending in the application.
- 4a) Of the above claim(s) _____ is/are withdrawn from consideration.
- 5) ☐ Claim(s) _____ is/are allowed.
- 6) ☒ Claim(s) 1-56 is/are rejected.
- 7) ☐ Claim(s) _____ is/are objected to.
- 8) ☐ Claim(s) _____ are subject to restriction and/or election requirement.

Application Papers

- 9) ☐ The specification is objected to by the Examiner.
- 10) ☐ The drawing(s) filed on _____ is/are: a) ☐ accepted or b) ☐ objected to by the Examiner.
Applicant may not request that any objection to the drawing(s) be held in abeyance. See 37 CFR 1.85(a).
Replacement drawing sheet(s) including the correction is required if the drawing(s) is objected to. See 37 CFR 1.121(d).
- 11) ☐ The oath or declaration is objected to by the Examiner. Note the attached Office Action or form PTO-152.

Priority under 35 U.S.C. § 119

- 12) ☐ Acknowledgment is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d) or (f).
- a) ☐ All b) ☐ Some * c) ☐ None of:
1. ☐ Certified copies of the priority documents have been received.
 2. ☐ Certified copies of the priority documents have been received in Application No. _____.
 3. ☐ Copies of the certified copies of the priority documents have been received in this National Stage application from the International Bureau (PCT Rule 17.2(a)).

* See the attached detailed Office action for a list of the certified copies not received.

Attachment(s)

- 1) ☒ Notice of References Cited (PTO-892)
- 2) ☐ Notice of Draftsperson's Patent Drawing Review (PTO-946)
- 3) ☐ Information Disclosure Statement(s) (PTO/CD/CIS)
- 4) ☐ Interview Summary (PTO-413)
- 5) ☐ Notice of Informal Patent Application
- 6) ☐ Other: _____
- Paper No(s)/Mail Date _____

DETAILED ACTION

This office action is responsive to an RCE AMENDMENT entered Nov 26, 2007 for the patent application 10/796946

The Final Office Action of Jul 25, 2007 is fully incorporated into this Office Action by reference.

Status of Claims

Claims 1-56 are pending. Claims 1, 11, 21, 31, 32, 33, 37, 41, 45, and 46 have been amended. Claims 47-56 are new.

Claim Rejections - 35 USC § 112

The following is a quotation of the first paragraph of 35 U.S.C. 112:

The specification shall contain a written description of the invention, and of the manner and process of making and using it, in such full, clear, concise, and exact terms as to enable any person skilled in the art to which it pertains, or with which it is most nearly connected, to make and use the same and shall set forth the best mode contemplated by the inventor of carrying out his invention.

Claims 1-56 are rejected under 35 U.S.C. 112, first paragraph, as failing to comply with the written description requirement. The claim(s) contains subject matter which was not described in the specification in such a way as to reasonably convey to one skilled in the relevant art that the inventor(s), at the time the application was filed, had possession of the claimed invention.

Claims 1, 11, 21, 31, 32, 33, 37, 41, 45, and 46 have been amended. Claims 47-56 are newly added. There is no support for the amended and added limitations. Applicant did not recite where support can be found in the spec for the amended

limitation. Applicant should specifically point out the support for any amendments made to the disclosure. See MPEP 2163.06 and 714.02.

Any claim not specifically addressed, above, is being rejected as incorporating the deficiencies of a claim upon which it depends.

Claim Rejections - 35 USC § 101

Claims 1-56 are rejected under 35 U.S.C. 101 because the claimed invention is directed to non-statutory subject matter

Claims 1-46 are rejected as set forth in the previous office action.

Claims 47-56 are being rejected as incorporating the deficiencies of a claim upon which it depends.

Response to Arguments

In re pgs. 14-16, Applicant's arguments with respect to 101 rejections have been fully considered but are not persuasive. If the applicant overcomes the 112.1 new matter rejection, the 101 rejection will be withdrawn.

Claim Rejections - 35 USC § 103

The following is a quotation of 35 U.S.C. 103(a) which forms the basis for all obviousness rejections set forth in this Office action:

(a) A patent may not be obtained though the invention is not identically disclosed or described as set forth in section 102 of this title, if the differences between the subject matter sought to be patented and the prior art are such that the subject matter as a whole would have been obvious at the time the invention was made to a person having ordinary skill in the art to which said subject matter pertains. Patentability shall not be negated by the manner in which the invention was made.

Claims 1-56 are rejected under 35 U.S.C. 103(a) as being unpatentable over Levitin et al ("information and Distinguishability of Ensembles of Identical Quantum States" 2001) as evidenced by Matzke et al ("Invariant Quantum Ensemble Metrics" SPIE 2005).

Note: Matzke's reference is published by the applicants (same inventive entity) which shows the same invention as described in the spec. Matzke's reference is relied upon to show the difference between prior art.

The invention of claims 1-56 as a whole (See MPEP 1504.03 and 2116.01) are drawn to methods, systems, and logic for reducing inter-symbol interference by manipulating a plurality of correlithm objects. The major idea in instant applicant is to initialize each of qubits in an ensemble to randomly chosen phases (See Matzke's introduction).

Levitin et al teaches initialize each of qubits in an ensemble to the same phases. (See Matzke's introduction).

The only difference between the claimed invention as a whole and the prior art is random phrase initialization of qubits versus same phrase initialization (See Matzke's introduction).

It would have been obvious to one of ordinary skill in the art to randomly initialize qubits rather than fixed initialization. There are only two possible ways to initialize qubits: either random or deterministic. Since the prior art teaches the deterministic way, one skill in the art would/could have attempted to try the random way with predictable result of either having a better performance or worse otherwise. It is obvious to try

since there are only two finite choices (In re *KSR International Co. v. Teleflex Inc.* (*KSR*), 550 U.S. , 82 USPQ2d 1385 (2007) and MPEP 2141 III (E)).

Response to Arguments

In re pg. 16-22, Applicant's arguments with respect to prior art rejections have been considered but are moot in view of the new ground(s) of rejection.

Conclusion

Any inquiry concerning this communication or earlier communications from the examiner should be directed to Lut Wong whose telephone number is (571) 270-1123. The examiner can normally be reached on M-F 7:30-5.

If attempts to reach the examiner by telephone are unsuccessful, the examiner's supervisor, Vincent David can be reached on (571) 272-3080. The fax phone number for the organization where this application or proceeding is assigned is 571-273-8300.

Information regarding the status of an application may be obtained from the Patent Application Information Retrieval (PAIR) system. Status information for published applications may be obtained from either Private PAIR or Public PAIR. Status information for unpublished applications is available through Private PAIR only. For more information about the PAIR system, see <http://pair-direct.uspto.gov>. Should you have questions on access to the Private PAIR system, contact the Electronic Business Center (EBC) at 866-217-9197 (toll-free).

Art Unit: 2129

/Lut Wong/

Patent Examiner, AU 2129

/David R Vincent/

Supervisory Patent Examiner, Art Unit 2129